

### **REMARKS**

Applicant respectfully acknowledges the Office Action mailed April 28, 2005 in which the Examiner has indicated the presence of allowable subject matter.

Claims 1-36 are pending. The Examiner rejected claims 1-6, 8-21, 23-26 and 28-36. Claim 27 was indicated on the Office Action Summary as being rejected; however, no rejection of the claim was made by the Examiner in the body of the Office Action. For purposes of this response, Applicant assumes that claim 27 is similarly situated to claims 7 and 22, which the Examiner objected to as being dependent upon a rejected base claim, but indicated would be allowable if rewritten in independent form, including all of the limitations of the base and intervening claims.

The Examiner objected to the drawings as failing to include certain reference numerals and objected to the specification for informal reasons.

Claim 12 was objected to because of a lack of antecedent basis for the limitation reciting "said radius R." Claims 13, 14 and 19-23 were rejected under 35 U.S.C. § 112, ¶ 2, the Examiner questioning the claimed "wedge ratio" language.

In response to the Examiner's rejections and objections, Applicant has amended certain claims and certain portions of the specification as set out above. Applicant respectfully requests the Examiner reconsider and withdraw the rejections and objections, as it is believed that all claims are presently in condition for allowance.

### **Drawings**

The Examiner objected to the drawings as failing to include reference numerals mentioned in the specification and for including reference numerals not mentioned in the

specification. As mentioned above, submitted herewith are replacement drawings correcting the drawings to add, and delete, as appropriate, the reference numerals identified by the Examiner. No new matter has been added. Applicant believes that these drawings fully comply with 37 C.F.R. § 1.84(p)(5).

### **Specification**

Submitted herewith is a replacement abstract which Applicant believes complies with the applicable requirements for the Abstract.

### **Claim Objection to Claim 12**

Claim 12 was objected to for lack of antecedent basis for the phrase “said radius R.” In response, claim 12 has been amended such that an antecedent basis is provided.

### **Claim Rejections Under 35 U.S.C. § 112**

Claims 13, 14, and 19-23 were rejected as being indefinite because the claims include the term “wedge ratio.” Applicant specifically defined what was meant by the term “wedge ratio” in Paragraph 43 of the originally-filed application:

The term “wedge ratio” as used herein means the ratio of the width of a wedge-shaped profile at its widest portion as compared to the width of the profile at the nose. Thus, a cutter element having a top cutting profile with the wedge ratio of 5:1 means that the profile is 5 times wider at its widest portion than the width of the nose.

Accordingly, Applicant respectfully submits that the term “wedge ratio” is definite and that claims 13, 14, and 19-23 fully comply with § 112.

### **Claim Rejections Under 35 U.S.C. § 102**

Claims 1-4, 8-10, 16-18, 20, 24-26, 28-34 and 36 were rejected under 35 U.S.C. § 102(b), the Examiner believing them to be anticipated by *Steinke* '034.

Claim 1 has been amended and requires the concave region to be one having an inverted radius that lies in a plane perpendicular to the central axis of the cutter element's base. By contrast, as best shown in Figures 9A and 9B of *Steinke*, the flanking surface of *Steinke* includes no such concave region having the inverted radius required in amended claim 1. The cutter element shown in Figures 9A-9C of *Steinke* failed to disclose a concave region on either flanking surface where the concavity has an inverted radius that lies in a plane perpendicular to the central axis of the insert's base. Instead, if Figures 9A-9C include any concavity, it would be a region in which the insert is bowed inwardly from the outer profile of the base to the generally straight portion of the cutting profile and, as such, would be a concavity defined by an inverted radius that lies in a plane parallel to or containing the insert's central axis, not one perpendicular to the central axis as required in amended claim 1. To understand the distinction further, the concavity claimed by Applicant may be thought of as a concavity that bows inward moving from the nose portion of the insert towards the back portion when viewed from above, along the insert's axis. By contrast, the concavity, if any, disclosed by the inserts of Figures 9A-9C of *Steinke* bow inward when moving from the base portion towards the top of the cutting insert when viewed perpendicular to the axis of the cutter element.

Independent claims 18 and 29 have been amended similarly. Accordingly, given that *Steinke* lacks this claimed feature, each of claims 1-4, 8-10, 16-18, 20, 24-26, 28-34 and 36 fully complies with § 102(b) and is in condition for allowance.

#### **Claim Rejections Under 35 U.S.C. § 103**

The Examiner rejected claims 5, 6, 11, 12, 15, 21, 26 and 35 under 35 U.S.C. § 103(a), the Examiner finding these claims unpatentable over *Steinke* '034 in view of *Portwood* '054.

Applicant respectfully traverses.

Each of these claims depends from an allowable base claim and, for that reason alone, should be in condition for allowance. Accordingly, each of these dependent claims should themselves be in condition for allowance.

In addition, as to claims 5 and 6, the Examiner believed Figures 11D and 11E of *Portwood* to disclose side profiles of the cutter element having the claimed relationship. However, the cross-section of Figure 11D is not a side profile. Instead, Figure 11D is a cross-section of the cutter element of Figures 9A-9D in a plane perpendicular to the cutter element's longitudinal axis, as expressly shown in Figure 9C. As such, the representations of *Portwood* Figure 11D (and Figure 11E) are not side profiles but are instead cross-sections of the top of the cutter element's cutting surface. Figures 11D and 11E thus do not disclose the side profiles having the relationships between radius  $R_1$ ,  $R_2$  and  $R_3$  of claims 5 and 6.

Furthermore, with respect to Figure 11D, aside from it not showing a side profile, it still does not show the relationship required by claim 5 which requires  $R_3 > R_2 > R_1$ . As shown in Figure 11D, the radius adjacent to the nose is smaller than the radius of the middle section (near the location where reference numeral 552 is called out), but the radius of the middle section has a larger radius than the trailing segment (adjacent to where reference numeral 520 is called out). Thus, Figure 11D does not have the required relationship where  $R_3$  is greater than  $R_2$ , which is greater than  $R_1$ , but instead discloses a relationship where  $R_2 > R_3 > R_1$ .

The Examiner rejected claims 15, 21 and 35, believing that *Steinke* disclosed all the limitations of the claims except for the top profile of the cutting element being pear-shaped. The Examiner believed that Figures 3B and 4B of *Portwood* disclosed a pear-shaped top profile.

Applicant respectfully traverses. Applicant discerns no structure in Figures 3B and 4B disclosing a pear-shaped top profile. The portion of the cutter element shown in Figure 4B represented by regions 114, 108 and 118, for purposes of discussion, might be said to resemble a kidney shape, but not a pear shape. If the Examiner can specifically identify structure that is considered pear-shaped, Applicants can respond further.

#### **Allowable Subject Matter**

Claims 7 and 22 were objected to as being dependent upon a rejected base claim, the Examiner indicating that these claims would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. Claim 27 was not specifically rejected, and Applicants have assumed that it is in the same condition as claims 7 and 22.

Claim 7 was rewritten in independent form including the limitations of claim 1, but excluding the limitations of claim 3. Applicant nevertheless believes that claim 7 is in condition for allowance and does not require the limitations of claim 3.

Claim 22 was rewritten in independent form and includes the limitations of original claim 18, but does not include the limitations of claim 19 which, Applicants respectfully submit, is not required to find this claim allowable.

Applicants have chosen not to amend claim 27; however, claim 27 depends from allowable claim 18 and thus should be in condition for allowance.

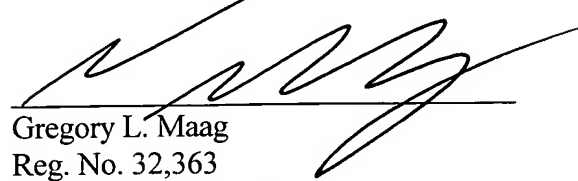
#### **CONCLUSION**

Applicant has endeavored to respond to each of the Office's rejections and objections and believes that each pending claim is in condition for allowance. Applicant respectfully requests

Appl. No. 10/628,191  
Amdt. Dated August 29, 2005  
Reply to Office Action of April 28, 2005

that a timely Notice of Allowance be issued in this case. If the Examiner feels that a telephone conference would expedite the resolution of this case, he is respectfully requested to contact the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Gregory L. Maag', is written over a horizontal line.

Gregory L. Maag  
Reg. No. 32,363  
CONLEY ROSE, P.C.  
P. O. Box 3267  
Houston, Texas 77253-3267  
(713) 238-8000  
ATTORNEY FOR APPLICANT

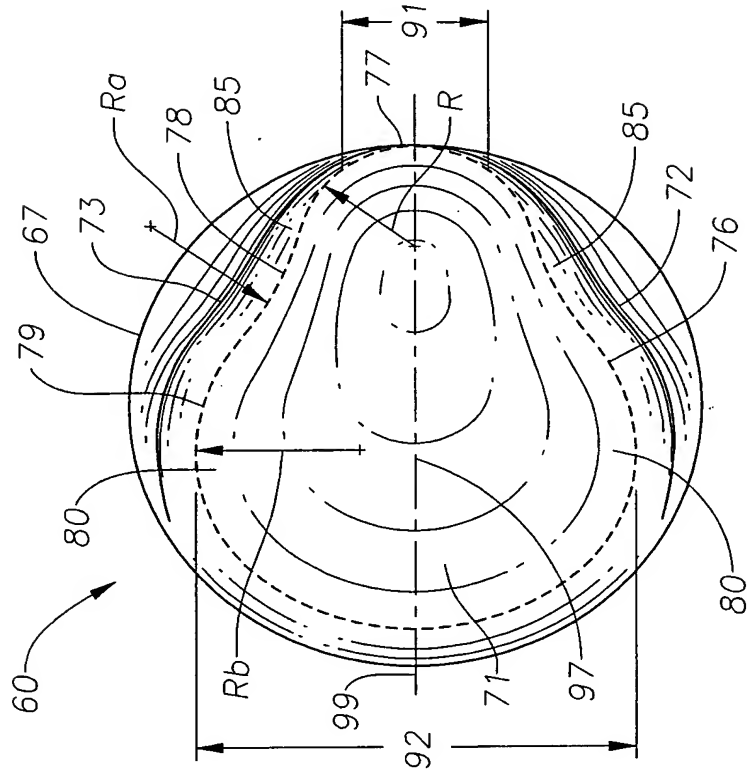
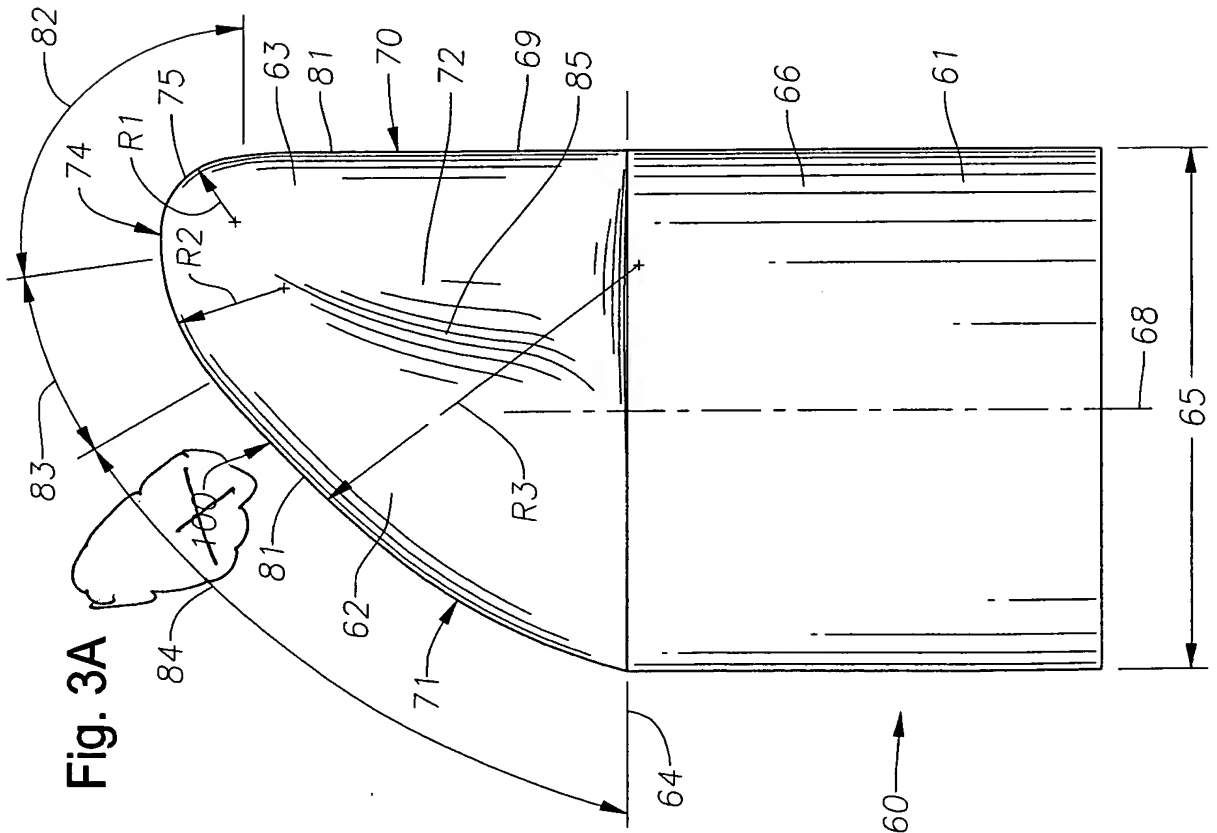
**Amendments to the Drawings:**

Replacement sheets of drawings 2 of 8, 3 of 8, 4 of 8, 6 of 8, and 8 of 8 are enclosed, reflecting amendments to drawing Figures 2, 3A, 4A, 5A, 6 and 7. These replacement sheets have been amended to include reference numerals 57a, 181 and 281, which the Examiner identified as included in the specification but missing from the drawings. No new matter has been added by these amendments. Likewise, the drawings have been amended to delete reference numerals 100 and 320 which the Examiner noted were not used in the specification. However, designations 193 and E have not been deleted from the drawings as they were included in the specification. Reference numeral 193 was described in paragraph 50, page 15 and identifier E was described in paragraph 56, page 17 of the original specification. For the Examiner's convenience, changes to these drawings are reflected on the additional set of attached replacement pages, with the changes shown in red ink.

[illegible]



3/8



4/8

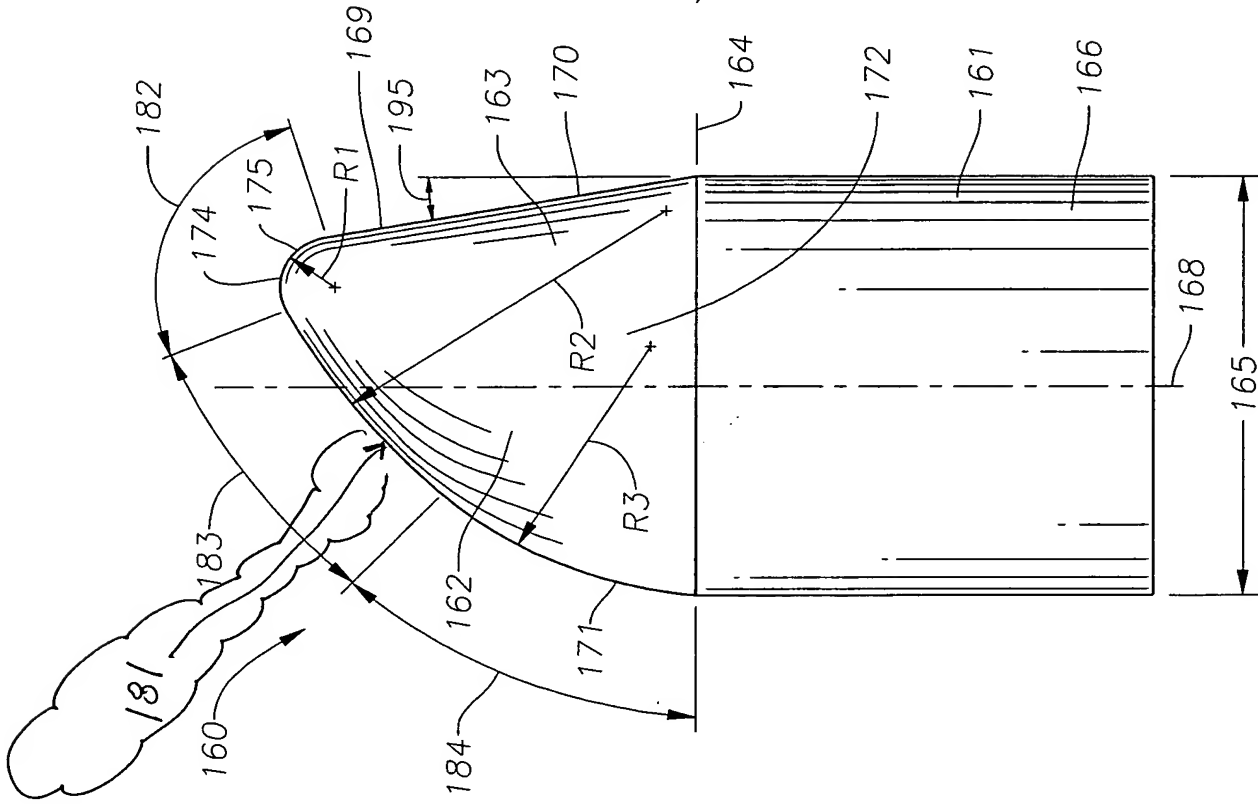


Fig. 4A

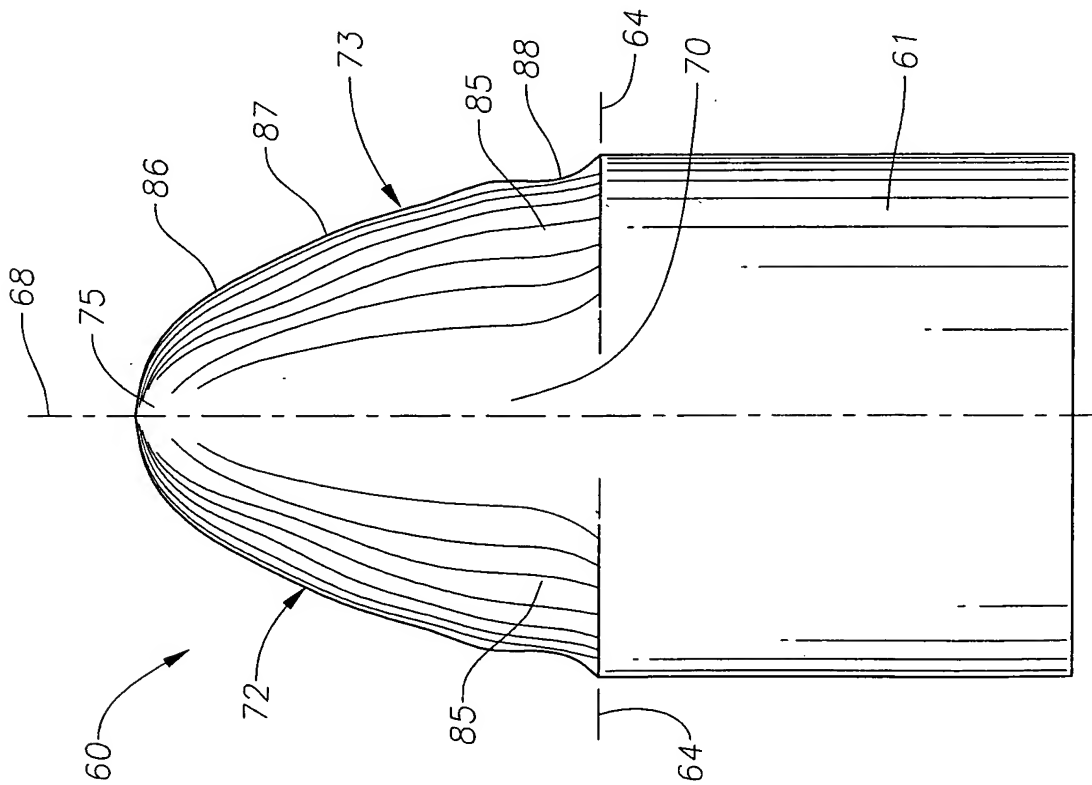
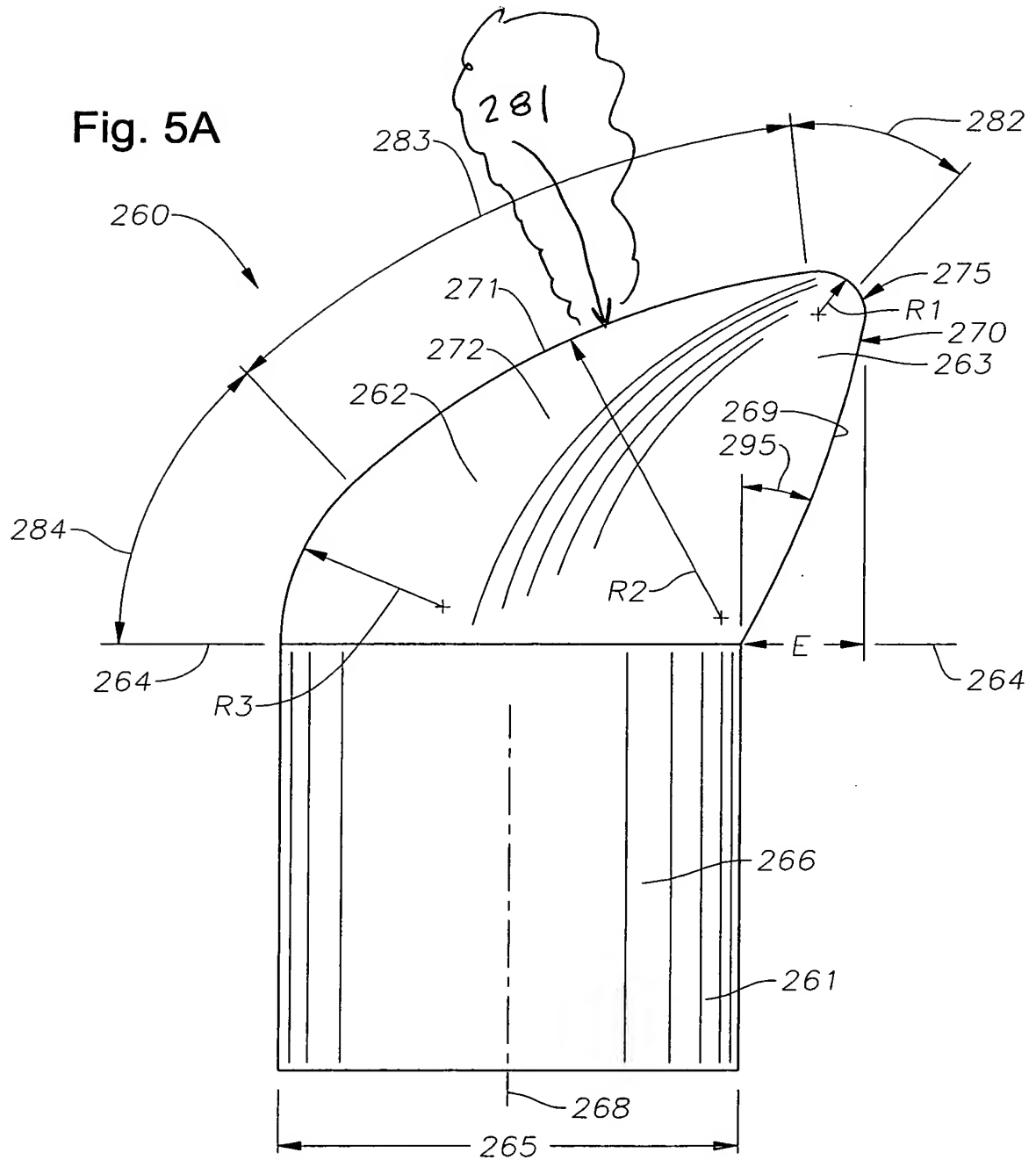


Fig. 3C

**Fig. 5A**



8/8

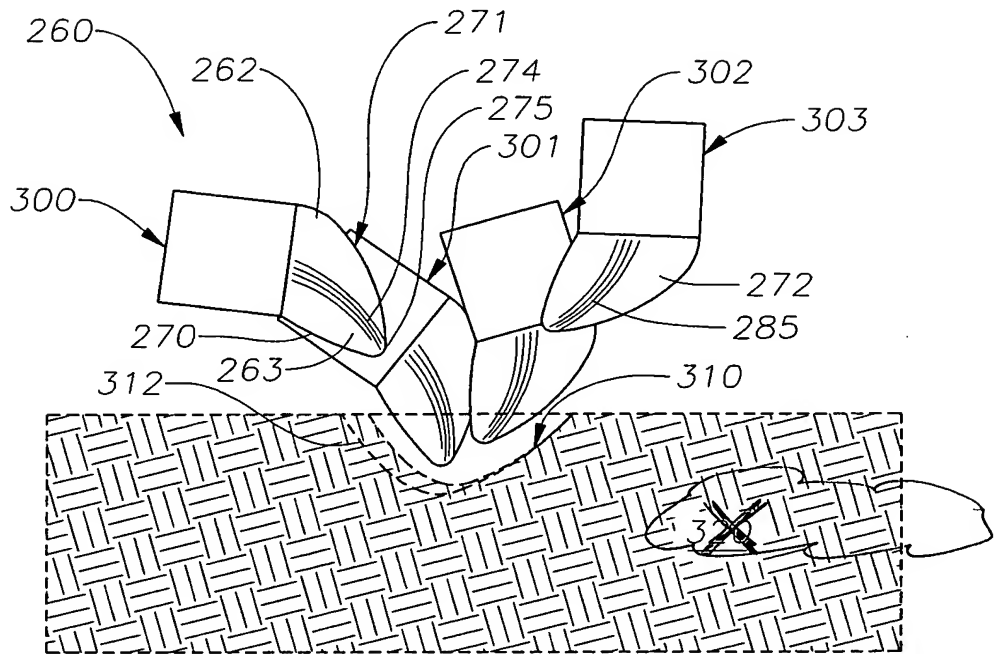


Fig. 6

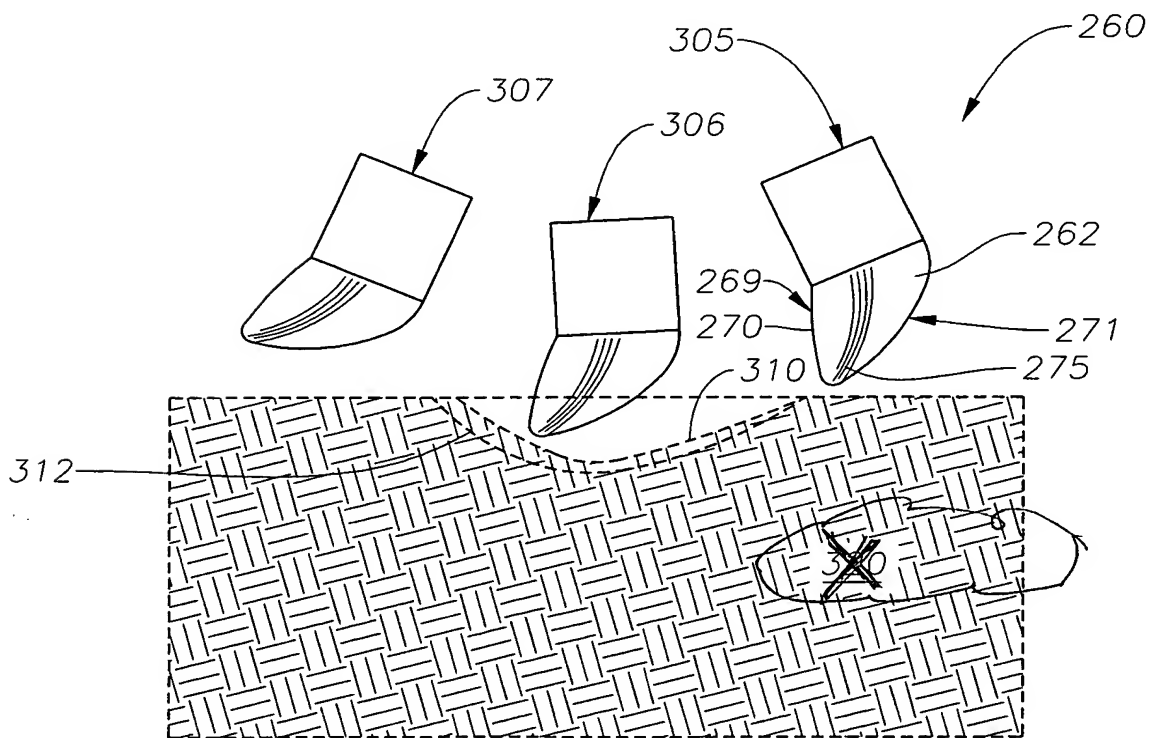


Fig. 7